0044678 LK 6687

LOCKHEED MARTIN

Lockheed Analytical Services

Ms. Joan Kessner
Bechtel Hanford, Inc.
P. O. Box 969
1022 Lee Blvd.
Richland, WA 99352

ANALYTICAL DATA REPORT

FOR

VOLATILE ORGANICS

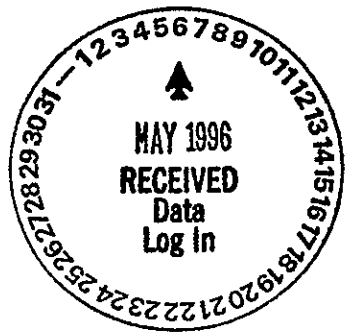
LOG-IN NUMBER:	L6687
QUOTATION NUMBER:	Q400000-B
SAF:	B96-081
DOCUMENT FILE NUMBER:	0327596
BHI DOCUMENT FILE NO.:	341
SDG NUMBER:	LK6687

Lockheed Environmental Systems & Technologies Co.
Lockheed Analytical Services
975 Kelly Johnson Drive Las Vegas, Nevada 89119-3705
Telephone 702-361-0220 800-582-7605 Facsimile 702-361-8146

LOCKHEED MARTIN

April 29, 1996

Joan Kessner
Bechtel Hanford, Inc.
3350 George Washington Way
MS B1-35
Richland, WA 99352



RE:		
	Log-in No:	L6687
	Quotation No:	Q400000-B
	SAF:	B96-081
	Document File No:	0327596
	WHC Document Control No:	341
	SDG No:	LK6687

The attached data report contains the analytical results of samples that were submitted to Lockheed Analytical Services on 27 March 1996.

The temperature of the cooler upon receipt was 4°C. Sample containers received agree with the chain-of-custody documentation. Sample containers were received intact. Samples were received in time to meet the analytical holding time requirements.

The case narratives included in the following attachments provide a detailed description of all events that occurred during sample preparation, analysis, and data review specific to the samples and analytical methods requested.

A list of data qualifiers, chain-of-custody forms, sample receiving checklist, and log-in report are also enclosed representing the samples received within this group.

If you have any questions concerning the analysis or the data please call Kathleen M. Hall at (509) 375-4741.

"I certify that this data package is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager or a designee, as verified by the following signature."

Sincerely,

Kathleen M. Hall
Client Services Representative

cc: Client Services
Document Control

CASE NARRATIVE
ORGANIC ANALYSES

Analytical Method 8240 Volatiles

Analytical Batch 040396-8260-I1

NOTE: Sample BOH819 (L6687-3) was the native sample used for the matrix spike (35552_MS) and matrix spike duplicate (35552_MSD) analyzed in this analytical batch.

The MS, MSD, and laboratory control sample (35552LCS) solutions contained many target compounds in addition to the five (5) required spike compounds.

The samples were analyzed within holding time on April 3, 1996. All instrument tunes, initial and continuing calibrations met QC criteria. Target compound Acetone was detected in the method blank (35552MB) but tentatively identified compounds (TICs) were not detected. All associated samples with a detected target compound as in the method blank were flagged with the qualifier "B". All surrogate recoveries were within QC limits for all samples. Compound recoveries were within QC limits in the MS, MSD, and LCS. The relative percent differences (RPDs) between the MS and MSD recoveries were within QC limits. All internal standards area counts and retention times were within QC limits for all samples.

Prepared By: Larry Woods

April 29, 1996

LOCKHEED ANALYTICAL SERVICES
LOGIN CHAIN OF CUSTODY REPORT (ln01)
Mar 27 1996, 02:41 pm

Login Number: L6687
Account: 596 Bechtel Hanford, Inc. * Richland, WA
Project: BECHTEL-HANFORD Bechtel Hanford Project

Laboratory Sample Number	Client Sample Number	Collect Date	Receive Date	PR	Due Date
L6687-1	B0H819	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4					
Location: 157					
Water 1 S SCREENING		Hold: 21-SEP-96			
L6687-2	B0H820	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4					
Location: 157					
Water 1 S SCREENING		Hold: 21-SEP-96			
L6687-3	B0H819	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
Water 1 S 8240 VOLATILES		Hold: 08-APR-96			
L6687-4	B0H819	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
L6687-5	B0H819	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
L6687-6	B0H820	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
Water 1 S 8240 VOLATILES		Hold: 08-APR-96			
L6687-7	B0H820	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
L6687-8	B0H820	25-MAR-96	27-MAR-96		01-MAY-96
TEMP 4 "WITH TICS"					
Location: RFG18-46A5					
L6687-9	REPORT TYPE	27-MAR-96	27-MAR-96		01-MAY-96
Location:					
Water 1 S EDD - DISK DEL.					
Water 1 S GCMS2					
Water 1 S GERMANN					

Signature: Paul E Davis

Date: 3-27-96

** 007

03.27.596

Bechtel Hanford, Inc.	CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST L6687	Page 1 of 1

Collector: [illegible signature]	Company Contact: K. M. Singleton	Telephone: (509) 372-9276	Data Turnaround: ☐ Priority ■ Normal
Project Designation: 200-ZP-1 Interim Point of Compliance Wells	Sampling Location: 200 W	SAF No.: B96-081	
Ice Chest No.: SML-450	Field Logbook No.	Method of Shipment: Hand Delivered	
Shipped To: Lockheed	Offsite Property No.: W96-0-0640-35	Bill of Lading/Air Bill No.: 290-4653-902	

Possible Sample Hazards/Remarks

Special Handling and/or Storage
Maintain samples between 2°C and 6°C.

Preservation	HCl	None
Type of Container	Gs	P/G
No. of Container(s)	3	1
Volume	40mL	20mL
SAMPLE ANALYSIS	VOA - TCL	Activity Scan

Sample No.	Matrix*	Date Sampled	Time Sampled	VOA - TCL	Activity Scan
B0H819	W	3-25-96	1040	✓	✓
B0H820	W	3-25-96	1040		✓

800

CHAIN OF POSSESSION — Sign/Print Names

Relinquished By	Date/Time	Received By	Date/Time
[signature] PNL	3-25-96 1200	[signature]	3/25/96 1225
[signature] PNL	3/25/96 1450	K. Mapp / K-T/420	3/25/96 1450
K. Mapp / K-T/420	3/26/96 1050		

SPECIAL INSTRUCTIONS
Deliver samples to 4701-C. Contact Bill Whitten at 376-1878.

Matrix*
S = Soil
SE = Sediment
SO = Solid
SL = Sludge
W = Water
O = Oil
A = Air
DS = Drum Solids
DL = Drum Liquids
T = Tissue
WI = Wipe
L = Liquid
V = Vegetation
X = Other

LABORATORY SECTION	Received By: [signature]	Title: Sample Custodian	Date/Time: 3-27-96 / 9:15 a
FINAL SAMPLE DISPOSITION	Disposal Method	Disposed By	Date/Time

SAMPLE CHECK-IN LIST

Date/Time Received: 3-27-96 / 9:15am SDG#: N/A

Work Order Number: N/A SAF #: B96-081

Shipping Container ID: Sml-450 Chain of Custody # N/A

1. Custody Seals on shipping container intact? Yes [X] No [ ]
2. Custody Seals dated and signed? Yes [X] No [ ]
3. Sample temperature 4°C
4. Vermiculite/packing materials is Wet [ ] Dry [X]
5. Each sample is in a plastic bag? Yes [X] No [ ]
6. Sample holding times exceeded? Yes [ ] No [X]

7. Samples have:
   - ____ tape
   - X custody seals
   - ____ hazard labels
   - ____ appropriate sample labels

8. Samples are:
   - X in good condition
   - ____ broken
   - ____ leaking
   - ____ have air bubbles

9. Is the information on the COC and Sample bottles in agreement?

Yes[X] No [ ]

Notes: _____

Sample Custodian/Laboratory: Paula Davis/LOS Date: 3-27-96

Faxed
~~Telephoned~~ To: Paula Davis On 3-22-96 By Paula Davis
PCO 3-27-96

LOCKHEED MARTIN

Sample Login
Login Review Checklist

Lot Number 26682

The login review should be conducted by that person logging in the samples as well as a peer. Please use this checklist to ensure that such reviews occur in a uniform basis. Please sign and date below to verify that a login review has occurred. This checklist should be affixed to each login package prior to distribution.

For effective login review, at a minimum, five reports form the login process are required. These are the COC (or equivalent), the login COC report, the sample summary report, the sample receiving checklist, and the login quotation. Before beginning review, ensure that these five components are available. Jobs with single component samples, the sample summary report may be omitted.

SAMPLE SUMMARY REPORT	YES	NO	N/A	Comment
1. Are all sample ID's correct?	X			
2. Are all samples present?	X			
3. Are all matrices indicated correctly?	X			
4. Are all analyses on the COC logged in for the appropriate samples?	X			
5. Are all analyses logged in for the correct container?	X			
6. Are samples logged in according to LAS batching procedures?	X			

LOGIN CHAIN OF CUSTODY	YES	NO	N/A	Comment
1. Are the collect, receive, and due dates correct for every sample?	X			
2. Have all appropriate comments been indicated in the comment section?	X			

SAMPLE RECEIVING CHECKLIST	YES	NO	N/A	Comment
1. Are all discrepancies between the COC and the login noted (if applicable)?			X	

010

[signature] primary review signature — 3-27-96 date

[signature] secondary review signature — 3-27-96 date

Lockheed Analytical Services

Sample Receiving Checklist

Client Name: Bechtel/Hanford Job No. L6687 Cooler ID: [illegible]

COOLER CONDITION UPON RECEIPT			
Temperature of cooler upon receipt:	4° C		
temperature of temp. blank upon receipt:			
	Yes	**No**	*** Comments/Discrepancies**
custody seals intact	X		
chain of custody present	X		
blue ice (or equiv.) present/frozen	X		
rad survey completed	X		
SAMPLE CONDITION UPON RECEIPT			
	Yes	**No**	*** Comments/Discrepancies**
all bottles labeled	X		
samples intact	X		
proper container used for sample type	X		
sample volume sufficient for analysis	X		
proper pres. indicated on the COC	X		
VOA's contain headspace	X		BOH820 (L6687-28)
are samples bi-phasic (if so, indicate sample ID'S):		N/A	
MISCELLANEOUS ITEMS			
	Yes	**No**	*** Comments/Discrepancies**
samples with short holding times		X	
samples to subcontract		N/A	
ADDITIONAL COMMENTS/DISCREPANCIES			
Completed by / date:	Paula Davis 3-22-96		
Sent to the client (date/initials):		** Client's signature upon receipt:	

*Notes: * = contact the appropriate CSR of any discrepancies immediately upon receipt*

*** = please review this information and return via facsimile to the appropriate CSR (702) 361-8146*

version 2.0 (11/11/94)

Lockheed Analytical Laboratory
SAMPLE SUMMARY REPORT (su02)
Bechtel Hanford, Inc. * Richland, WA

Client Sample Number	LAL Sample Number	SDG Number	Matrix	Method
B0H819	L6687-1		Water	SCREENING
	L6687-3		Water	8240 VOLATILES
B0H820	L6687-2		Water	SCREENING
	L6687-6		Water	8240 VOLATILES
REPORT TYPE	L6687-9		Water	EDD - DISK DEL.
	L6687-9		Water	GCMS2
	L6687-9		Water	GERMANN

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
8240 VOLATILES

Client Sample ID:	B0H819	LAL Sample ID:	L6687-3
Date Collected:	25-MAR-96	Date Received:	27-MAR-96
Date Analyzed:	03-APR-96	Analytical Dilution:	1
Matrix:	Water	Analytical Batch ID:	040396-8260-I1
		Preparation Dilution:	1.00

SURROGATE	RECOVERY	QC Limits
1,2-Dichloroethane-d4	104%	84-122
Toluene-d8	102%	87-117
Bromofluorobenzene	100%	83-118

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(s)
Chloromethane	74-87-3	<5.0	5.0	
Vinyl Chloride	75-01-4	<5.0	5.0	
Bromomethane	74-83-9	<5.0	5.0	
Chloroethane	75-00-3	<5.0	5.0	
Trichlorofluoromethane	75-69-4	<5.0	5.0	
Acetone	67-64-1	4.7	10.	BJ
1,1-Dichloroethene	75-35-4	<5.0	5.0	
Carbon Disulfide	75-15-0	<5.0	5.0	
Methylene Chloride	75-09-2	<5.0	5.0	
trans-1,2-Dichloroethene	156-60-5	<5.0	5.0	
Vinyl Acetate	108-05-4	<10.	10.	
1,1-Dichloroethane	75-34-3	<5.0	5.0	
2-Butanone	78-93-3	<10.	10.	
cis-1,2-Dichloroethene	156-59-2	<5.0	5.0	
Chloroform	67-66-3	<5.0	5.0	
1,1,1-Trichloroethane	71-55-6	<5.0	5.0	
Carbon tetrachloride	56-23-5	<5.0	5.0	
1,2-Dichloroethane	107-06-2	<5.0	5.0	
Benzene	71-43-2	<5.0	5.0	
Trichloroethene	79-01-6	<5.0	5.0	
1,2-Dichloropropane	78-87-5	<5.0	5.0	
Bromodichloromethane	75-27-4	<5.0	5.0	
2-Chloroethylvinylether	110-75-8	<20.	20.	
4-Methyl-2-Pentanone	108-10-1	<10.	10.	
cis-1,3-Dichloropropene	10061-01-5	<5.0	5.0	
Toluene	108-88-3	<5.0	5.0	
trans-1,3-Dichloropropene	10061-02-6	<5.0	5.0	
2-Hexanone	591-78-6	<10.	10.	
1,1,2-Trichloroethane	79-00-5	<5.0	5.0	
Tetrachloroethene	127-18-4	<5.0	5.0	
Dibromochloromethane	124-48-1	<5.0	5.0	
Chlorobenzene	108-90-7	<5.0	5.0	
Ethylbenzene	100-41-4	<5.0	5.0	
m,p-Xylene	136777-61-2	<5.0	5.0	
o-Xylene	95-47-6	<5.0	5.0	
Styrene	100-42-5	<5.0	5.0	
Bromoform	75-25-2	<5.0	5.0	
1,1,2,2-Tetrachloroethane	79-34-5	<5.0	5.0	
1,3-Dichlorobenzene	541-73-1	<5.0	5.0	
1,4-Dichlorobenzene	106-46-7	<5.0	5.0	
1,2-Dichlorobenzene	95-50-1	<5.0	5.0	

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
TENTATIVELY IDENTIFIED COMPOUNDS
8240 VOLATILES

Client Sample ID:	B0H819	LAL Sample ID:	L6687-3
Date Collected:	25-MAR-96	Date Received:	27-MAR-96
Date Analyzed:	03-APR-96	Analytical Dilution:	1
Matrix:	Water	Analytical Batch ID:	040396-8260-I1
		Preparation Dilution:	1.00

Number of TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
8240 VOLATILES

Client Sample ID:	B0H820	LAL Sample ID:	L6687-6
Date Collected:	25-MAR-96	Date Received:	27-MAR-96
Date Analyzed:	03-APR-96	Analytical Dilution:	1
Matrix:	Water	Analytical Batch ID:	040396-8260-I1
		Preparation Dilution:	1.00

SURROGATE	RECOVERY	QC Limits
1,2-Dichloroethane-d4	102%	84-122
Toluene-d8	105%	87-117
Bromofluorobenzene	99%	83-118

CONSTITUENT	CAS NO.	RESULT ug/L	PRACTICAL QUANTITATION LIMIT ug/L	DATA QUALIFIER(S)
Chloromethane	74-87-3	<5.0	5.0	
Vinyl Chloride	75-01-4	<5.0	5.0	
Bromomethane	74-83-9	<5.0	5.0	
Chloroethane	75-00-3	<5.0	5.0	
Trichlorofluoromethane	75-69-4	<5.0	5.0	
Acetone	67-64-1	<10.	10.	
1,1-Dichloroethene	75-35-4	<5.0	5.0	
Carbon Disulfide	75-15-0	<5.0	5.0	
Methylene Chloride	75-09-2	<5.0	5.0	
trans-1,2-Dichloroethene	156-60-5	<5.0	5.0	
Vinyl Acetate	108-05-4	<10.	10.	
1,1-Dichloroethane	75-34-3	<5.0	5.0	
2-Butanone	78-93-3	<10.	10.	
cis-1,2-Dichloroethene	156-59-2	<5.0	5.0	
Chloroform	67-66-3	<5.0	5.0	
1,1,1-Trichloroethane	71-55-6	<5.0	5.0	
Carbon tetrachloride	56-23-5	<5.0	5.0	
1,2-Dichloroethane	107-06-2	<5.0	5.0	
Benzene	71-43-2	<5.0	5.0	
Trichloroethene	79-01-6	<5.0	5.0	
1,2-Dichloropropane	78-87-5	<5.0	5.0	
Bromodichloromethane	75-27-4	<5.0	5.0	
2-Chloroethylvinylether	110-75-8	<20.	20.	
4-Methyl-2-Pentanone	108-10-1	<10.	10.	
cis-1,3-Dichloropropene	10061-01-5	<5.0	5.0	
Toluene	108-88-3	<5.0	5.0	
trans-1,3-Dichloropropene	10061-02-6	<5.0	5.0	
2-Hexanone	591-78-6	<10.	10.	
1,1,2-Trichloroethane	79-00-5	<5.0	5.0	
Tetrachloroethene	127-18-4	<5.0	5.0	
Dibromochloromethane	124-48-1	<5.0	5.0	
Chlorobenzene	108-90-7	<5.0	5.0	
Ethylbenzene	100-41-4	<5.0	5.0	
m,p-Xylene	136777-61-2	<5.0	5.0	
o-Xylene	95-47-6	<5.0	5.0	
Styrene	100-42-5	<5.0	5.0	
Bromoform	75-25-2	<5.0	5.0	
1,1,2,2-Tetrachloroethane	79-34-5	<5.0	5.0	
1,3-Dichlorobenzene	541-73-1	<5.0	5.0	
1,4-Dichlorobenzene	106-46-7	<5.0	5.0	
1,2-Dichlorobenzene	95-50-1	<5.0	5.0	

LOCKHEED ANALYTICAL SERVICES

GC/MS FOR VOLATILE ORGANICS
TENTATIVELY IDENTIFIED COMPOUNDS
8240 VOLATILES

Client Sample ID:	B0H820	LAL Sample ID:	L6687-6
Date Collected:	25-MAR-96	Date Received:	27-MAR-96
Date Analyzed:	03-APR-96	Analytical Dilution:	1
Matrix:	Water	Analytical Batch ID:	040396-8260-I1
		Preparation Dilution:	1.00

Number of TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					